WARP-FACED WEAVING ON AN ARCHITECTURAL SCALE

PROBLEM IN LIEU OF THESIS

Presented to the Graduate Council of the
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Fulfillment of the Requirements

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Chapter I.

INTRODUCTION

The impetus for this project emerged in an effort to move beyond small scaled weavings executed in neutral hues to larger pieces with more color. All of my previous work had been technically oriented, lacking in direction, and limited to neutral hues which blended well together and were readily available.

In attempting to incorporate color into my work, I was attracted to a rayon fiber, BRITE, produced by Craft Yarns of Rhode Island. I executed several warp-faced pieces in this fiber. The first pieces were folded and stuffed with dacron. (See Figure 1, page 13, and Figure 2, page 14.) The next was folded horizontally and stitched. (See Figure 3, page 15.) The last piece executed before the planning of my creative project consisted of two panels. One of the panels was flat and served as a background for the other, which was folded. (See Figure 4, page 16.) I felt that the overlapping of the panels worked well, and from this I concluded that more than two might be used in constructing a piece.

I determined that the project would involve answering two basic questions: (1) Could I successfully push these panels to large scale, and (2) Could several of these large panels be manipulated to create an interchangeable piece

that would work visually in more than one arrangement.

In attempting to resolve these questions, I decided to do a large piece which would consist of units without folds that could hang over one another in a variety of ways. I felt it a necessity that these units be of differing widths. Since the maximum weaving width of my loom is forty-eight inches, and since I wanted to make the piece as large as possible, I decided to make the largest panel forty-eight inches wide. I decreased the width of the panels ten inches at a time, making the next panel thirty-eight inches wide, the next twenty-eight inches, the next eighteen inches, and the last eight inches wide. They were to be woven in five separate threadings of the loom, with five different warp-faced stripe patterns. I planned to cut each strip into two sections, each twelve feet long, to be hung ten feet from the floor, folded under for two feet.

The piece was to consist of these ten panels. By hanging one panel of each width top-side-outward and the other top-side-to-the-wall, I would end up with a set of five panels of one striped pattern, and the other five would be its mirror-image. The piece could be hung in a variety of ways. It could be spread over the wall with the units five inches apart, the forty-eight inch panels to the far left and right with the others arranged in descending widths toward the center of the wall. The eight inch panels could be hung in front of the eighteen inch panels which would be in front

which would be in front of the forty-eight inch panels. And the other set of five panels could be arranged in this way also. The two sets could be hung side by side to cover a distance of about 8½ feet along the wall. Any unit could be placed over any other one of greater width.

Since the panels were meant to react with one another in so many configurations, it was important that the stripe pattern be planned carefully. I limited myself to ten colors: scarlet, orange, persimmon, yellow, chartreuse, blue, violet, hot pink, black, and white. I planned to show all of the warm colors in at least one threading in a wide stripe. Each Panel would contain at least one of these wide stripes. Nearly all panels would contain at least two wide bands of white. In each panel, there would be at least one area where hot pink, blue, and chartreuse would appear in proximity. All panels would have two black threads between each color change and four black threads between each striped section and white band. All panels would begin and end with four black threads.

I kept a journal as I worked. Before deciding upon specific stripe patterns, I did many sketches. I reproduced each of the proposed panels on a small scale and shifted the reproductions into various arrangements to determine how the completed project would be manipulated during exhibition.

Chapter II.

CREATIVE PROJECT

I designed the forty-eight inch panel first. I made several sketches and finally arrived at a pattern based on a military ribbon my father had earned during World War II. Some of the notes from the journal I kept while working on this panel read:

> Based on Army Ribbon; 3 color areas broken by 2 white stripes: small cluster of rainbow colors; large area; repeat of cluster. This will be the only one with far left and right areas alike--this is because it will hand to the far left and right of the total piece and it echoes the piece within itself.

This is the stripe sequence: one inch of violet, one inch of blue, one-half inch of chartreuse, 1½ inches of yellow, one-half inch of persimmon, one inch of orange, one-half inch of persimmon, 1½ inches of yellow, one-half inch of chartreuse, one inch of blue, one inch of violet, five inches of white, ten inches of scarlet, two inches of hot pink, one inch of blue, one inch of chartreuse, two inches of scarlet, five inches of white, one inch of violet, one inch of blue, one-half inch of chartreuse, 1½ inches of yellow, one-half inch of persimmon, one inch of orange, one-half inch of persimmon, 1½ inches of yellow, one-half inch of chartreuse, one inch of blue, and one inch of violet.

The sequence for the thirty-eight inch panel is as follows: one inch of scarlet, one inch of violet, two inches of yellow, one inch of orange, one inch of blue, one inch of chartreuse, 1½ inches of persimmon, one-half inch of hot pink, one inch of scarlet, one inch of chartreuse, two inches of blue, one inch of hot pink, one inch of orange, eight inches of hot pink, two inches of scarlet, one inch of blue, one inch of yellow, two inches of chartreuse, and one inch of hot pink.

The sequence for the twenty-eight inch panel is as follows: six inches of yellow, one inch of violet, four inches of white, two inches of violet, 1½ inches of hot pink, one-half inch of scarlet, one inch of chartreuse, one inch of blue, four inches of white, one inch of hot pink, and six inches of persimmon.

The sequence for the eighteen-inch panel is as follows: six inches of chartreuse, six inches of white, one inch of scarlet, one inch of chartreuse, one inch of blue, two inches of hot pink, and one inch of orange.

The sequence of the eight-inch panel is as follows: five inches of orange, one-half inch of hot pink, one-half inch of chartreuse, one inch of yellow, one-half inch of blue, and one-half inch of scarlet.

In previous pieces the grain of the fabric had sagged due to uneven tension on the loom. To overcome this, I used a device commonly employed in winding long warps onto

sectional beam looms, the tension box. To use the tension box, one winds as many bobbins as there are threads in two inches of warp. The warp is wound on the loom two inches of width at a time. Each bobbin must contain enough yarn to wind as many two-inch sections as there are in the width of the warp. For example, if one wished to thread a warp of ten yards in length for a width of twelve inches, he would divide the twelve inches in the width by two. This would give six two-inch sections. He would then determine the number of threads in two inches of warp. For example, if there were sixty-four threads in two inches of warp in this case, just as there would be in my creative project, he would need to wind sixty-four bobbins. Each bobbin would contain enough warp for six sections. Since the warp was to be ten yards long, each bobbin would have to contain sixty yards of yarn. The sixty-four bobbins would be wound and placed upon a spool rack. The sixty-four threads from these bobbins would be led through the tension box and tied onto the loom. Ten yards would then be wound onto the back beam of the loom. The sixty-four threads would be cut and tied onto the next two-inch section, ten yards wound, cut, and so forth, across the width of the warp. This method of warping assures even tension for the entire length of the warp.

I used the tension box to warp the five threadings in my creative project. Since the warp was to be striped, and since nearly every two-inch section of warp was to be differ-

ent, it was necessary for me to wind the sixty-four bobbins for two inches of width at a time.

The problems that I encountered in the construction of the project were few and easily solved. They resulted from my unfamiliarity with the equipment used in sectional beam warping. To wind the bobbins for the tension box, I ran the yarn from a spool through a yardage counter and onto the bobbin. The bobbin was inserted into an electric bobbin winder. For the five threadings, I used a total of 2,240 bobbins. Where there was a wide band of one color, I was able to wind one bobbin for more than one section. The following account of the construction of the creative project is taken from my journal:

> At first I thought I could wind all of the bobbins for the hanging at once, but I realize that I need more than sixty-four bobbins to do that. So I'll have to figure each set of bobbins individually and just wind what I can.
>
> I can wind the first three sections at once, 4 black 10 yds each 60 yellow 30 yds 3 yellow 20 yds, 2 yellow 10 yds. This gives me:
> section 1 4 black 60 yellow
> section 2 60 yellow + 3 yellow + 1 yellow
> section 3 60 yellow + 3 yellow + 1 yellow
> At least one thread in each section myst be 9 yds to act as a guide thread.
>
> I have completed the first three sections. I find that some bobbins are short and some long; a lot of wasted yarn. I called Roger, and he suggests a new way to thread my yardage counter to avoid slippage which causes waste. Some yarn is slipping through without being counted.
>
> I've had many problems with the equipment necessary for sectional beam warping. I've found the best thing to do is have the spool rack,

> yardage counter, and bobbin winder lined in as straight a line as possible. The bobbin winder gives many problems by running at one speed--fast. When it stops quickly, yarn flies everywhere and the yardage counter spins without passing any yarn. I am not sure that the 28" section, the first I have warped, is warped in every section for 9 yards. Some may be 8 and some 10 in which case there will be much waste. From now on, I am going to use a guide thread that I'll wind and unwind to use with all sections of warp.
>
> Putting the filled bobbins on the rack with the loose thread in the same direction and as nearly in order left to right as I can get them seems to help.
>
> The tension seems consistent across the warp as I weave.
>
> I've finished this section, but, as I feared, some sections were short. (There were three with ten yards, eight with nine, one with eight, and two with seven.)
>
> I have ended up with 20'4" of fabric. Instead of 12', I'll make each section of the piece 10' long to pile up 1'.

I had woven the twenty-eight inch panel first. I began work on the eighteen-inch panel. The following is taken from my journal:

> I decided to try for more accuracy in warping this section. I also decided to thread 9 yds. to give me 8 yds. woven. I used a bright yellow guide thread and wound it onto an empty section through the tension box as I wound each section onto the beam. All sections came out the same length. After weaving, I ended up with 23'9". Now I'll begin the eight-inch section.
>
> In winding, I have less trouble with the electric winder stopping while the spool of thread spins and gets tangled in the bobbin rack. I put my hand on the yardage counter as I lift my foot from the pedal of the bobbin winder.

I completed the thirty-eight inch section. While working on the last section, forty-eight inches wide, I wrote this in my journal:

> Beginning to weave, I had a lot of trouble getting a shed--perhaps due to static cling. Roger suggested I spray the warp with water. It helped a little, but not enough to risk staining the piece.
>
> The dowel rod [that I have been using to beat the filler down firmly] did not reach across the entire warp. Wherever it ended, it packed the yarn tightly. At first, I thought this wavy grain was due to uneven tension, so I loosened the tension here and there. When I realized it was the rod, I used a lease stick. This was not very good, because it was flat and did not work as easily as a rod, so I used a mop handle. Works well.
>
> This wide warp is harder to reach than the others--my arms tire quickly. I also am still having trouble getting a shed. The fibers are still clinging. If I reach in back of the beater, then in front again with the rod, beating down each time, I get a shed. This is very slow. I am weaving about one foot an hour. Sometimes I miss a thread near the selvage and have to take out two or three shots. What a waste of time.
>
> Finally, I find the solution. My Macomber loom has free-hanging harnesses, so I let them come forward as close to the beater as possible. This gives a passable shed.
>
> With the warp-faced fabric, there is not a great problem keeping the selvages straight; the warp keeps them from pulling in too badly. Sometimes, if the tension is loose near the selvage, it pulls in a little.
>
> Rolling the bobbins is very tedious. If two consecutive sections have a common color, I can roll some of the bobbins for both sections to save time. This is why some sections take 1½ hours to roll and others take only one-half hour. Rolling the bobbins takes about a minute fifteen seconds each.

Sectional beam warping overcame the problem of sagging grain.

When the panels were completed, I had considered placing grommets every five inches across the tops of all of the pieces and hanging them over nails, but there was a problem with this. First, the grommets I had tried on a sample of this fabric had been difficult to set due to its thickness. Not only had the grommets been difficult to set into the thick fabric, but they packed the warp in such a way as to expose the filler above and below them. I searched for a device that would clamp securely onto the fabric and be attached easily to the wall. I settled on bulldog clips. These I clamped every $3\frac{1}{2}$ inches along the top of the panels. The clips could be moved so that the panels could be hung over one another at any point. This meant that the units could be hung in an infinite variety of ways.

During the first three days of exhibition, the piece hung in ten separate units, five inches apart. I then moved the right five units to hang one in front of the other. (See Figure 5, page 17, and Figure 6, page 18.) I was not satisfied with the bulldog clips which supported the piece, but I was pleased with everything else. After the show was taken down, I stitched headings into the panels and hung them from dowel rods.

Chapter III.

CONCLUSION

I feel that this project was successful in that it answered the two questions put forth in my proposal. I was able to push the panels to large scale. Working on this scale created some technical problems, but, by using the tension box for warping, I was able to overcome them. Through extensive use of the tension box as was required by the five threadings in this project, I gained proficiency with this device.

I found the bull dog clips by which the ten panels were hung to be visually disturbing. Although they fulfilled the function for which they were intended, they were far too noticable, and they detracted from the simplicity of the piece.

The units were successful in more than one arrangement, and the interaction of the brilliant-colored patterns was greatly intensified on this large scale. The wide white bands within the pattern of some of the panels resembled the five inches of wall space between the units. This made the wall appear to be part of the piece. This, along with the overall proportions of the project when it was spread to its maximum area, worked well with the gallery space. I found the units to be most imposing when the ten were hung separately along

the wall; however, the interaction of the stripe patterns was not greatly diminished by placing the panels one over the other. I feel that the piece was successful in both arrangements used in the exhibition, and I feel that it would succeed in other configurations as well. (See Figure 5, page 17; Figure 6, page 18; and Figure 7, page 19.)

Fig. 1--First hanging, untitled

Fig. 2--Second hanging, Flash Gordon

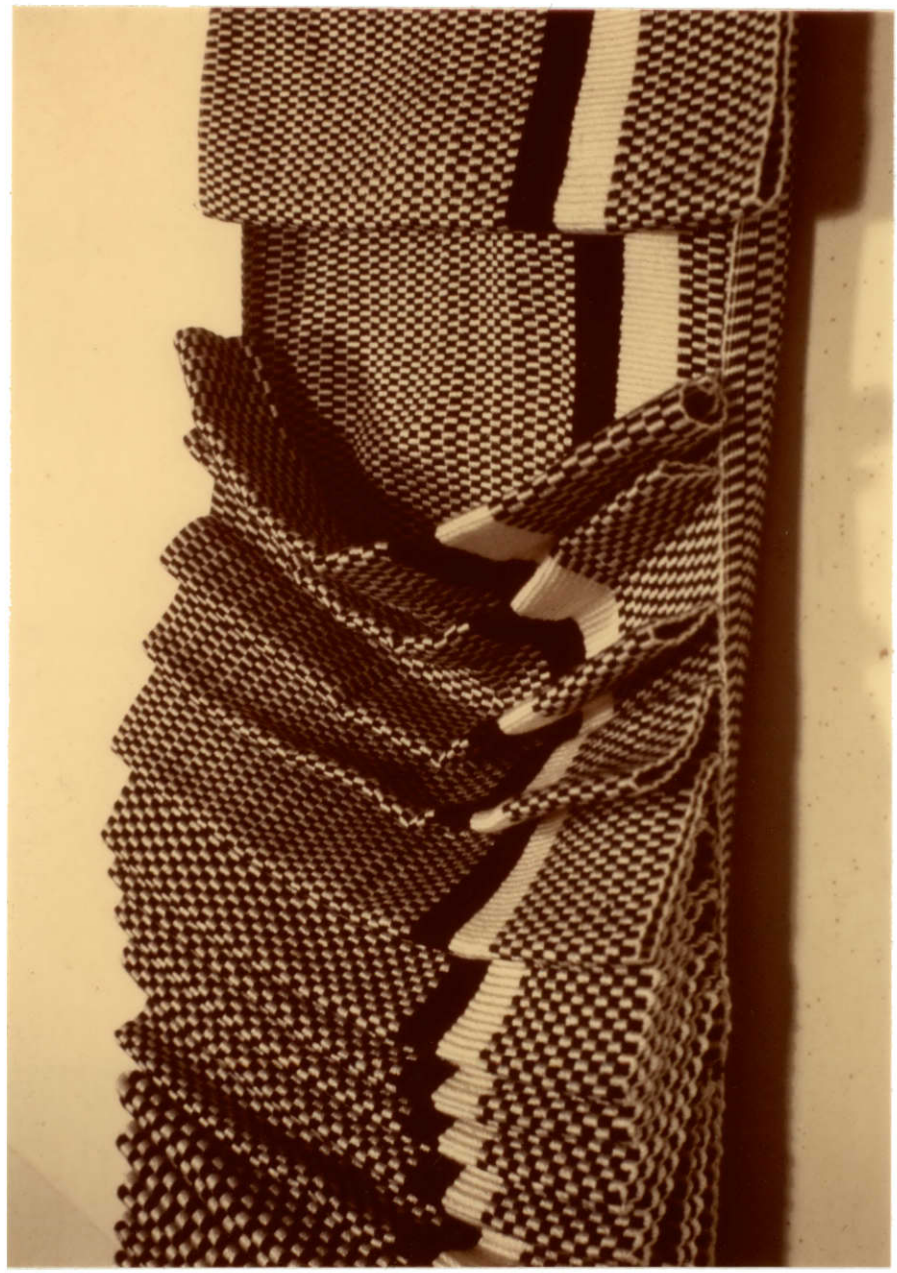

Fig. 3--Third hanging, untitled

Fig. 4--Fourth hanging, Denny's Piece

Fig. 5--Creative project

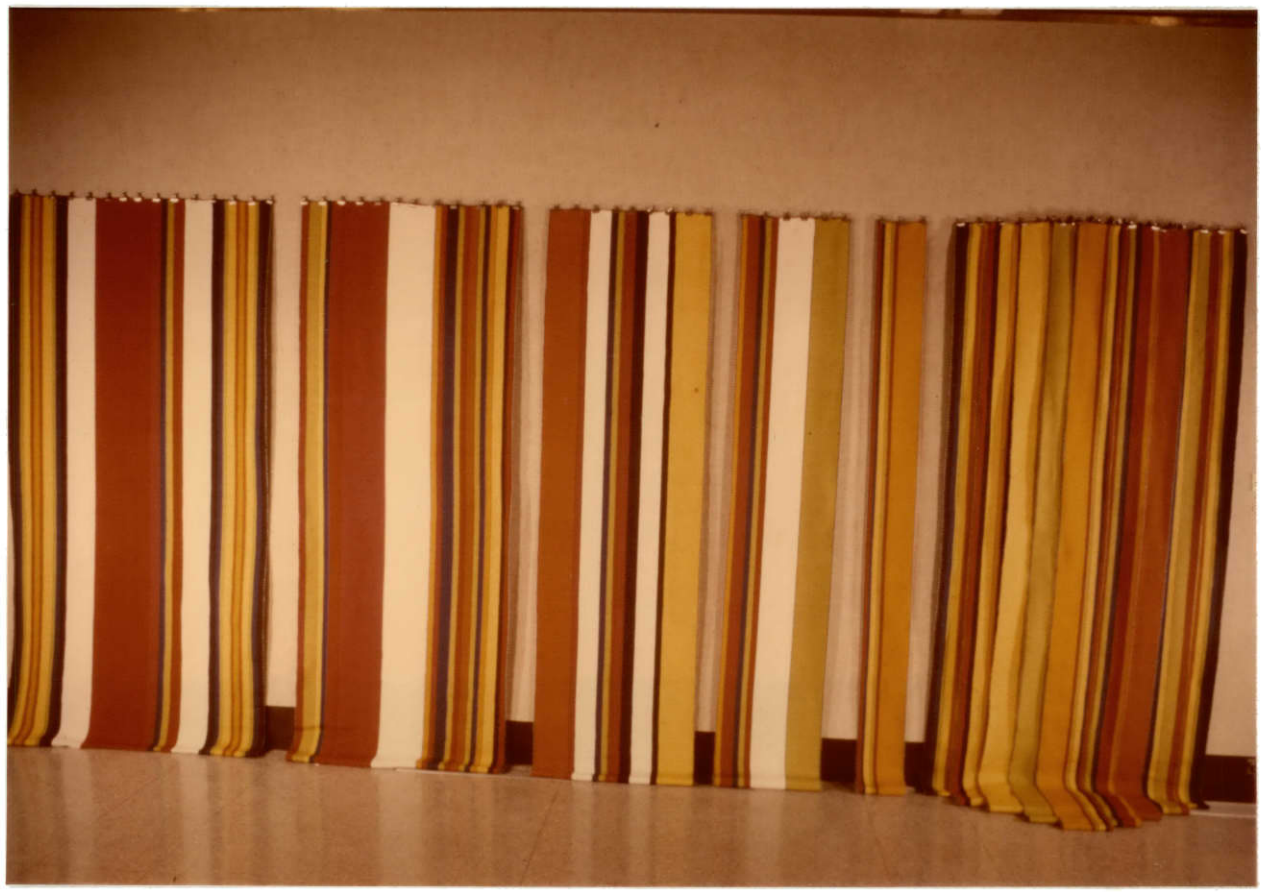

Fig. 6--Creative project, shifted

Fig. 7--Creative project, shifted, detail